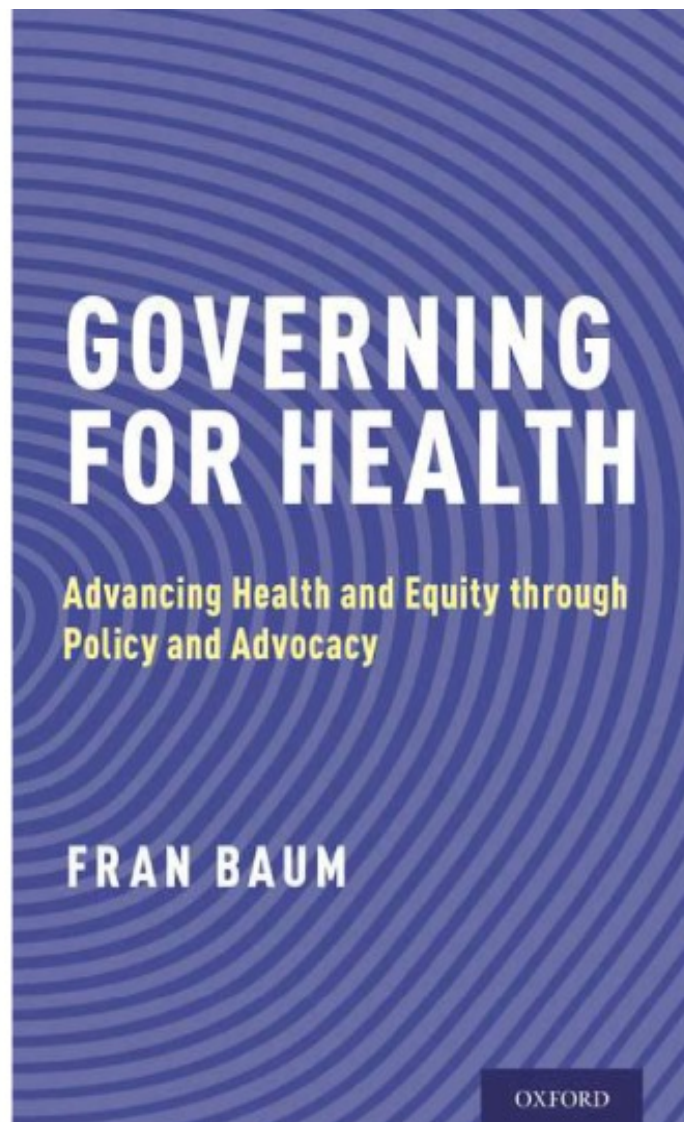


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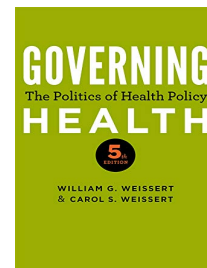


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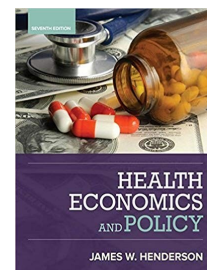
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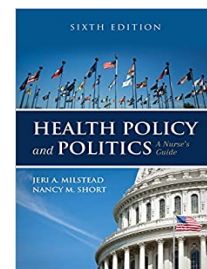
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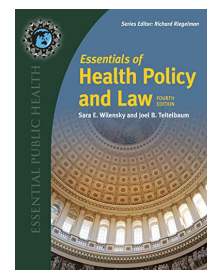
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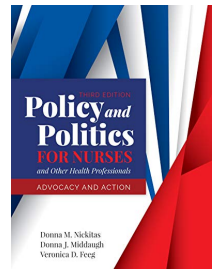
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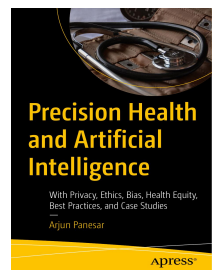
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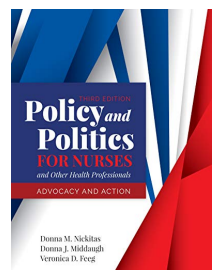
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# GOVERNING FOR HEALTH

**Advancing Health and Equity through  
Policy and Advocacy**

**FRAN BAUM**

OXFORD

# Governing for Health



# Governing for Health

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Advancing Health  
and Equity through  
Policy and Advocacy

FRAN BAUM

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# Contents

<i>Acknowledgments</i>	vii
1. Introduction	1
2. The Power of Policy to Promote Health and Well-Being	13
3. Political Dimensions of Governing for Health: Leadership, Vision, and a Manifesto	23
4. Health Sectors as Actors and Advocates for Health and Health Equity	37
5. Fiscal Policy: Central to Governing for Health	59
6. Education: Essential Investment in Health	81
7. Urban Planning: Vital for Healthy Cities and Communities	99
8. Creating an Ecologically Sustainable World to Support Environmental and Human Health	123
9. Local Government and Health Governance	141
10. Civil Society: Healthy Governance from Below	159
11. Conclusion: Six Key Messages for Governing for Health	183
<i>References</i>	193
<i>About the Author</i>	221
<i>Index</i>	223



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BOOKS ARE NEVER just the product of individual thought. So it is with *Governing for Health*, which draws on the 35 years during which I have researched, taught, and thought about the social determinants of health. Friends, work colleagues, comrades in progressive health struggles, and students have shaped my thinking over the years and are too numerous to list here. Thus I restrict myself to those who have helped directly with this book in the past two years.

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I dedicate this book to my grandchildren, Anika Laris and Riley Goff-Laris, my great-nieces and -nephews, Libby and Abby Thornton, and Maisa and Lasse Leikas, and all of their generation who deserve a sustainable world governed for health.

Fran Baum  
Henley Beach, South Australia  
May 2018

# Governing for Health

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# Introduction

. . . health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector.

—WORLD HEALTH ORGANIZATION (1978: 2)

I WANT TO persuade you that a shift to governing for health, equity, and well-being, rather than profit, is vital if we are to continue to improve life expectancy and survive as a species on this planet. Our planet is living through dramatic times. The good news is that humans are living longer than ever and fewer people are living in absolute poverty than in the past. The bad news is that we are becoming less equitable, some people's life expectancies are declining, and we are using up our planet's resources at an unprecedented rate and are warming the climate to a point that will soon mean that life as we know it will be unsustainable. The planet will continue to orbit the sun, but it could be a planet without people. The cause of these reverses in human and planetary well-being is that we have allowed an economic model of life to dominate our imaginations so that money and growth are valued above all else. The pursuit of wealth has become the most desired thing. This has meant that we are becoming less equal, less fair, and less sustainable, and, for some groups, less healthy. The unimagined wealth experienced by a very small proportion of our planet's population has been accumulated through despoiling the natural capital of the world—the air, oceans, lakes, forests, wetlands, marshes, savannah, and deserts. Millions of years of evolution have been wiped out in the interests of very short-term profit taking. In most sectors of our society, decisions are made in favor of profit, rather than in terms of what is good for our collective health.

It is against this background that governing for health and well-being becomes so vital. We have entered the Anthropocene age in which human activity is shaping the planet's environment. Unless we govern that activity and ensure that it is directed at creating the conditions for health and well-being, it will pose a direct and increasing threat to our health. Such governance will require a fundamental rethinking of what we value as a species and how we are going to reverse and repair the damage done to the planet. Our survival depends on a shift to a world in which community, society, more equitable sharing of resources, and conservation of the planet matter much more than money and the economy. This shift will be good for human health and will create a future in which older people feel satisfied that they are handing over a sustainable legacy, and younger people feel excited by a sustainable and healthy future, full of opportunities and potential. In the 1960s there was a widespread assumption that things would continue to get better. However, in the 1970s and 1980s the world chose the path of neoliberalism, and optimism was squeezed out of our vision.

## Governing for Equity

In the first two decades of my life I was fortunate to be the recipient of considerable support from the state. The British National Health Service saved my life. I needed a blood transfusion at birth and Mum always told me how lucky I was to have been born at a time that health care was free and accessible. Then I had a great public education. I went to a state-funded nursery school from age three and was able to develop good skills. My state primary school provided me with good basic education and some frills such as weekly drama classes. My secondary education was good enough to see me win a place at university. I was the first in my family to complete high school, let alone go to university. What's more, my local authority in the United Kingdom not only paid all my fees, but also provided a means-tested maintenance grant, which meant, because my parents didn't earn much, I had enough to live on. Once I'd graduated, I bought my first house with the help of a state grant.

Thus, in many ways, I'm a product of an interventionist, redistributive state. It worked well for my generation of baby boomers. We grew up with a sense that not just our parents but the broader society would look after us. It would give us a hand up and take an interest in our collective welfare through a myriad of policies. There was a greater sense of "we" and

“community” and collective consciousness. I suspect that this solid base of feeling cared for may have encouraged our youthful rebellions in the 1960s and early 1970s. How could we make our society even fairer and more collective?

The period of my childhood was characterized by economic growth and growing economic equality in Organisation for Economic Co-operation and Development (OECD) countries. As a young history undergraduate, I can remember a certainty that the future would be better: more equal, healthier, and sustainable. History also taught me that while individuals appear to have agency over their lives and health, many aspects reflect the circumstances and time in which we are born. Here are some examples. A young man moving from rural England to rapidly industrializing Manchester in 1828 would face a life expectancy of around 28 because of the horrific living conditions in newly industrializing cities. The election of the Nazis in Germany in the 1930s had dire consequences for Jewish people, those who were leftist or gay, Roma people, and those with a physical or mental disability. A 30-year analysis of the influence of austerity and prosperity-related events on suicide rates in the period 1983–2012 in Greece found a rise in total suicides by 35.7% after austerity was introduced in June 2011 (Branas et al., 2015). In Ireland a 57% increase in men’s suicide in Ireland was attributed to recession and austerity between 2008 and 2012 (Corocran, 2015). Workers in the Wittanoon Asbestos mine in Western Australia in the 1950s had no idea of the long-term adverse impact of asbestos on their health. Syrians in the past five years have faced terrible threats to their life and survival. Refugees around the world have been displaced by circumstances beyond their control. The historical instances go on and on. Whether or not we are healthy and how we live are primarily to do with the social and economic circumstances in which we are born, live, play, and work.

This realization, and the fact that more policymakers need to appreciate this, motivated me to write this book. A healthy, sustainable, and equitable society will not result from the uncoordinated actions of individuals, but from planned and systematic action by communities, governments, and international organizations. Living a healthy, fair, and sustainable life should be the birthright of every child born on planet Earth, and achieving this outcome the aspiration of every government. Yet, despite continued and persistent economic growth over the past half century, our world remains unhealthy for many, and is becoming less fair and sustainable. It doesn’t have to be this way. Collectively we have sufficient resources to

ensure health, fairness, and sustainability. What we lack are the governance processes to ensure that these attributes are top priorities and have at least equal consideration with the goal of economic development. So this book will use evidence to highlight the actions that can be taken by governments and their public servants to maximize the chances of citizens leading long, healthy, productive, happy lives. In this book I point to the existing strengths of the “nanny state” in making our lives better, and also show how public services can be improved and adapted to different needs through relational governance and participatory and deliberative democracy.

Whether to govern for sustainable health or for short-term profit is a theme that runs through this book. In every chapter this dilemma emerges. The book’s overall contention is that governments too often opt for the policies that will ensure profit for some, justifying the decision with the expectation that economic growth will bring benefits for the entire population in its wake. But wealth has not trickled down to the many—rather, it floats up to the few. The experience of the last decades has shown that while life expectancy has continued to increase in most countries, inequities have grown very significantly, and chronic disease rates are growing globally. In addition, there are now instances in the United States and the United Kingdom where life expectancies are static or declining (Marmot, 2018). From World War II until the 1970s the world became more equal, but this achievement has been largely squandered. Now the wealth of the world has become obscenely unequal. Credit Suisse (2017) reports that the forty two richest men in the world own as much wealth as the poorest 3.7 billion people, Oxfam (Hardoon, 2017) further report that the incomes of the poorest 10% of people increased by less than \$3 a year between 1988 and 2011, while the incomes of the richest 1% increased 182 times. There is evidence that societies that distribute their resources less equally also do worse in terms of a range of measures of health and well-being (Wilkinson and Pickett, 2009).

### *Healthy Environments Create Healthy People*

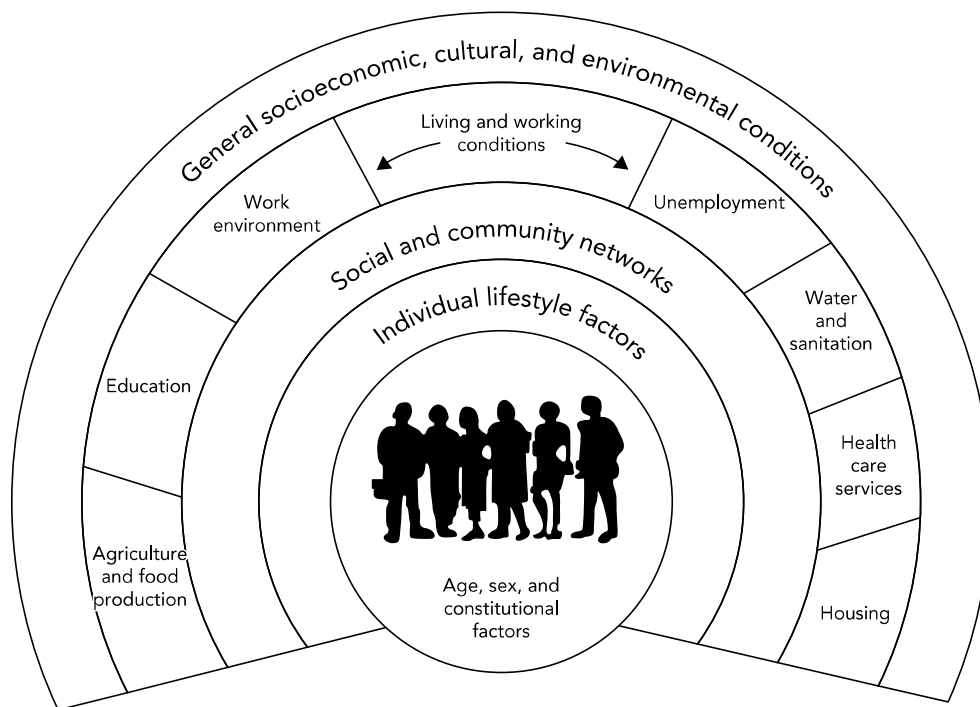
Health and how equally it is distributed are good markers for how well we are doing globally and within nations. The institutions we establish, the values that drive them, the people within them, and the priorities we choose are the driving forces behind health and its distribution. But, I can hear some readers saying, surely people make their own choices

that determine their health? Of course, individual choice has some effect, but overwhelmingly the social and economic structures within which we all live and our opportunities to live in healthy environments determine how long and how well we will live, as the preceding examples of how environments constrain individual agency demonstrate.

This means that governing for health is vital for the well-being of all. This goes for all government sectors, as every one of them has an impact on our health. Whether this impact is positive or negative is determined by the policies and decisions made within each sector.

### *Determinants of Health and Health Equity*

Figure 1.1 shows the ways in which the health of individuals is shaped by layers of influence from lifestyle, through social and community characteristics, the conditions of everyday life (including educational opportunity, employment, and the availability of services) and then social, economic, and environmental conditions. Together these make up the social determinants of health. The Commission on the Social Determinants



**FIGURE 1.1.** Determinants of health.

Source: Whitehead and Dahlgren (1991). Used with permission from Institute for Futures Studies.

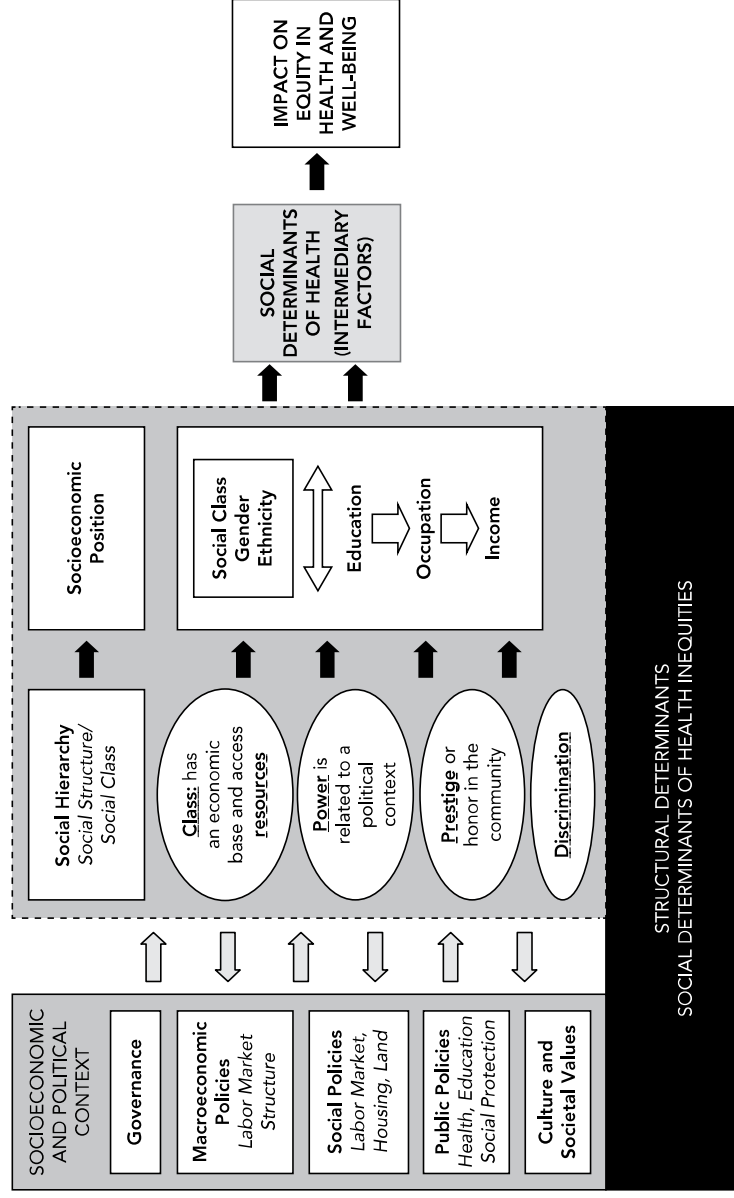
of Health (2008) saw these determinants as both the conditions of everyday life (including housing, education, employment, and the extent and quality of human services) and the underpinning distribution of power and resources.

The work of this Commission was vital in showing the extent of health inequities and in amassing the evidence on why health is not equally divided but is spread across a gradient in society and between countries. Thus in many rich countries average life expectancy is over 80 years, while in many African countries life expectancy is around 50 years. There are no biological reasons for those differences. They reflect the social determinants of health. Figure 1.2 provides a sociological explanation of these differences, showing that the policy context shapes social hierarchies. These, in turn, largely determine individuals' socioeconomic position in terms of education, employment, and income. Together these factors shape the distribution of health in a society.

### *Looking Below the Iceberg*

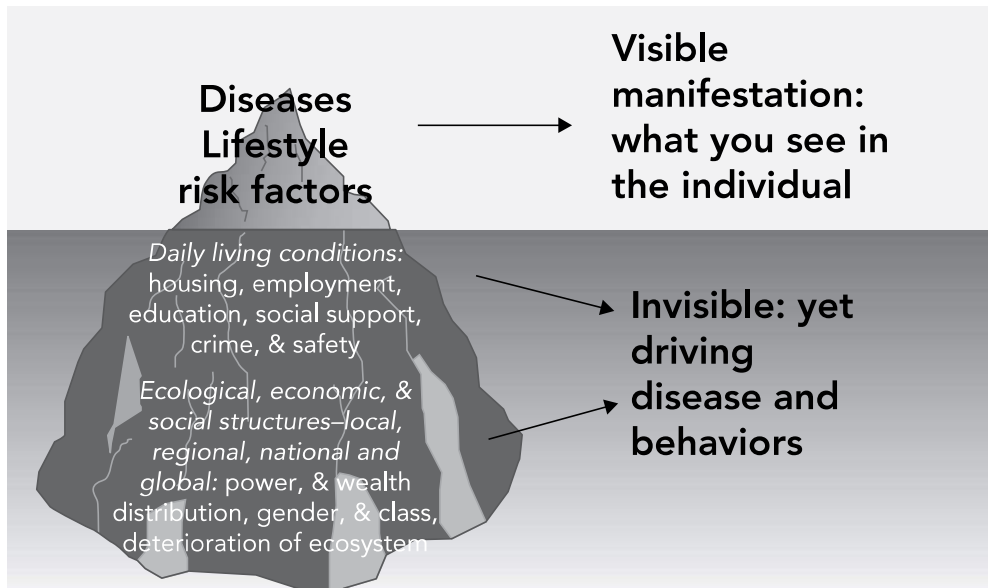
How health is shaped by our social and economic milieu is largely invisible—it lies below the surface of the iceberg (Figure 1.3). The links between, for instance, unemployment and poor health are not immediately evident. This leaves the door open for people to point to the tip of the iceberg and blame people for their poor health and short lives, claiming that people indulge in unhealthy behaviors and don't take care of their health. It's much harder to look below the surface of the iceberg and make the link, for example, between increased sales of junk food and rising rates of childhood obesity, or to link increased anxiety and depression to the growth of insecure work contracts.

Yet looking under the surface of the iceberg is exactly what we have to do to solve intractable health problems. This is how many OECD countries have reduced smoking rates. Looking at the tip of the iceberg shows only smokers, who can easily be blamed as irresponsible for smoking in light of the evidence on smoking and cancer. Yet taking a look below the surface shows that there was a powerful tobacco industry working to keep people focused on the smokers' behavior and spending many millions of dollars on lobbying governments to prevent them from regulating the use of tobacco (Chapman, 2008). A "tip" approach to diabetes would easily lead to finger pointing at people with diabetes who don't try to reduce their weight. Yet many factors are driving an increase in diabetes—people may



**FIGURE I.2.** Social determinants of health equity.

Source: Solar and Irwin (2010: 35). Used with permission of the World Health Organization.



**FIGURE 1.3.** The health iceberg.

*Source:* Based on Baum (2009).

live in an area that is not safe or appealing to walk around, many cities are car dependent and don't encourage walking or cycling, air pollution, the supply of high-fat and high-sugar foods has increased, and healthy food is often more expensive than junk food. This book will argue that when you look below the iceberg at the conditions of everyday life, while people can and do exert agency and work to improve their health and well-being, good public policy can make their efforts far more effective.

#### The Base of the Iceberg

At the base of the iceberg are the factors that are driving the distribution of resources in the world and so, in turn, drive health inequities. A capitalist economy that relies on the generation of profit from multiple sources and that for the most part does not protect the environment largely shapes our world. In the post–World War II period, many rich countries established welfare and taxation regimes that resulted in reduced economic inequities and improved health. The basis of these regimes was challenged from the 1980s. Margaret Thatcher in the United Kingdom and Ronald Reagan in the United States encouraged the rise of neoliberal policies that have led to dismantling of the welfare states, deregulation of industry and commerce, privatization of assets previously in public ownership, and lower taxation. As a result, economic inequities have grown to a level not seen since the 1920s (Piketty, 2014) and the wealth of the super-rich is soaring to new heights, the once prosperous middle class in OECD countries is under



increased pressure, and poverty remains the reality for billions. While there is a growing middle class in middle-income countries, there are also increases in inequities in countries like India and China. Projections suggest that by 2030, if current trends continue, the top 1% will control two-thirds of the world's wealth (Savage, 2018).

Underpinning neoliberalism is a system of governance that many commentators say is directed toward supporting the profits and activities of transnational corporations (TNCs) (Freudenberg, 2014; Korten, 2015). In the 1980s the World Trade Organization (WTO), the World Bank, and the International Monetary Fund (IMF) systematically established a trade regime that favored big business, sold neoliberal policies in the form of structural adjustment packages to low- and middle-income countries, and cutbacks to welfare states in richer countries. More recently, many countries have adopted austerity politics in the wake of the global financial crisis of 2008, even though profits for TNCs have continued to rise and the very wealthiest individuals continue to grow their wealth at a much higher rate than the rest of the global population. Living in a neoliberal world means that it is hard to appreciate the ways in which it has changed the way we think, act, and govern the world. The Marxist geographer David Harvey put it this way:

Neoliberalism has, in short, become hegemonic as a mode of discourse. It has pervasive effects on ways of thought to the point where it has become incorporated into the common-sense way many of us interpret, live in, and understand the world. (Harvey, 2007: 3)

The extent of inequity and the dangers of the ensuing lack of social trust and decline of solidarity are being recognized by the IMF, which now talks of “inclusive growth” (Lagarde, 2013). The former chief economist at the World Bank (Stiglitz, 2012) has now criticized the growth in inequities that came in the wake of its neoliberal policies. The adverse health consequences of the neoliberal system have also been recognized by a Global Commission established by *The Lancet* and the University of Oslo (Ottersen et al., 2014). The report from the Commission recognized the massive power asymmetries and noted that the global economic and political determinants were central in producing health inequities. They recommended that global governance for health must be rooted in commitments to global solidarity and shared responsibility in order to produce healthy people on a healthy planet.

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# Exploring the Variety of Random Documents with Different Content

had to work upon were old in years, misshapen from habit and labour, and somewhat addicted to the prevailing vice of intemperance; but even these worn-out men he moulded by his once a-week drill into an appearance which enabled them to march past creditably with the Line on the Sunday garrison parades. Most of the company had been many years in the Province, and though not very tight and tidy soldiers, were nevertheless valuable as workmen and specially useful as foremen when military working parties were employed.

Both parties employed in restoring the fortresses at Syracuse and Augusta were recalled to Messina, and assisted to repair and improve the defences of that place.

At the Cape of Good Hope parties were detached at intervals during the year to Stellenbosch, Simon's Town, and Hout's Bay; and at Halifax to St. Andrews and Fort Clarence. At the latter fort, the non-commissioned officer detached was employed surveying. From Newfoundland a detachment was sent to Cape Breton; and from Gibraltar, also, second corporal Thomas Paul and four privates were detached to Perexil, a small islet opposite the Rock between Ceuta and Apes' Hill, where they dismantled all its batteries, magazines, and storehouses. Parties were also employed at Hurst Castle and the Isle of Wight.

The time-honoured queue, which had long formed a conspicuous appendage to the soldier's head-dress, was abolished in the corps in August; and the closely-cropped hair of the present day, and small whisker extending to the lobe of the ear, were then adopted.

## 1809.

Retreat to Coruña—Miserable state of the detachment on reaching England—Hardships of the stragglers—Capture of Martinique—Skill of George Mitchell at the siege—Fever in the West Indies—Reduction of the Saintes—Detachment to Portugal—Battles of Oporto and Talavera—Casualties in the retreat, and distribution of the party—Naples—Zante and the Ionian Islands—Term of service of the Maltese military artificers—Siege of Flushing—Services of the military artificers there—Gallantry, in the batteries, of John Millar, Thomas Wild, and Thomas Letts—Conduct of corps at the siege—Casualties by the Walcheren fever—Skilful conduct of Corporal T. Stevens in the demolitions at Flushing—Captain John T. Jones—Servants—Incidental detachments.

Excepting the two miners with General Spencer, the whole of the royal military artificers in Spain joined Sir John Moore's army. When the force was put in motion, the senior sergeant of the detachment was left at Lisbon for special duty. The remainder accompanied the army in the retreat, and with the exception of two men taken prisoners and seven stragglers, were present at the battle of Coruña.

Immediately after, the detachment embarked for England. The season being stormy there was no regularity in the arrivals. Some, therefore, landed at Portsmouth and others at Plymouth between January and March. They were destitute of every article essential to their comfort or equipment. Several were shoeless and clad in tatters and undistinguishable uniforms; while the majority, haggard and attenuated, suffering from shipwreck, privation, and sickness, afforded indubitable evidence of the severe and arduous campaign, through which the necessities of war had recently carried them.

Left to their own resources, the seven stragglers retraced their steps, between 300 and 400 miles, to Lisbon. In undertaking the

journey, during a very inclement season, they encountered many dangers, endured frequent trials and hardships, and barely supported life upon the scanty offerings which chance and a ransacked country afforded them.

On the 28th January, three sergeants and seventy-one rank and file of the West India company, under the command of Brigadier-General Shipley, embarked at Barbadoes with Lieutenant-General Beckwith's expedition and landed at Martinique on the 30th. The company was further increased by a sergeant, three corporals, and seventeen artificers under Lieutenant Robert Thomson, royal engineers, who embarked at Halifax, Nova-Scotia, with Lieutenant-General Sir George Prevost's division. Both parties, when not engaged as overseers, were employed in the general labour of the trenches and the park, and performed the duties allotted to them, particularly in the destruction of Forts Bourbon and Desaix, with activity and zeal. Several non-commissioned officers and men were distinguished by special commendation; and the skill of corporal George Mitchell gained for him the reputation of being the best miner in the service. Private George Thomas was killed 22nd February in the advanced battery before Fort Bourbon. After the surrender of Martinique it became the head-quarters of the company. The Nova Scotia party returned with Sir George Prevost and landed at Halifax the 17th April. During the operations the rains were heavy and incessant, and the men being much exposed, fevers and dysentery were rife among them. By the end of the year, twenty-one of the company had died and five were invalided.

In April, two sergeants and seventeen rank and file were present at the reduction of the Saintes under the command of Lieutenant Hobbs, R.E., and were employed during the service in the construction of the required batteries, magazines, &c. The party returned to Martinique the latter end of the month.

A detachment of one sergeant and eighteen rank and file embarked at Portsmouth, on the 14th March, under the command of Lieutenant-Colonel Fletcher, for Portugal, and arrived at Lisbon on the 5th April. It was composed of men chosen from the Portsmouth and Gosport companies, among whom were several who had served

in the previous campaign. Writing from Portsmouth, the Colonel says, "I find that all the men now here, who were with me before, are very anxious to go out again, but one cannot ask for everybody." On arriving at Lisbon the party was joined by a sergeant and the seven stragglers of the Coruna party. It was thus increased to twenty-eight total, and shortly after another private from England was added to the number.

On the 12th May was fought the battle of Oporto: twenty-five men of the artificers were present. They afterwards repaired the wooden bridge which led into the town. Moving with the army they mustered at Coimbra on the 1st June, and at Castello Branco on the 1st July. At the battle of Talavera, on the 27th of that month, fifteen of the detachment were present. Private Aaron Delacourt was taken prisoner while endeavouring to convey to the rear Captain Boothby of the royal engineers, who was wounded, and had his leg amputated. Of the artificers not present at the battle, two were at Lisbon, three on route to join the army, four at Abrantes, sick; and one on the Alberche. With the exception of two at Lisbon all joined at Talavera before the end of July.

A severe retreat succeeded the battle, in which the party suffered very much. At Merida they were mustered on the 1st September. Lisbon was their head-quarters in November, at which time they were greatly scattered. A sergeant only was at Lisbon and the rest were distributed as follows:—one Abrantes, one Badajos, one Oeyras, four Sobral, and six Torres Vedras. Of the other artificers in Portugal, four were in the general hospital sick, and one a prisoner of war. The casualties since the opening of the campaign were six deaths, two missing, and two invalided to England.

The company of Maltese military artificers at Messina was increased in April by seventeen rank and file from Malta. On the 1st June following, sergeant Roberts and thirty-eight men of the company, were attached to the expedition for the invasion of Naples. Twelve of the royal military artificers also went with the expedition, and served under the command of Lieutenant-Colonel A. Bryce, royal engineers, in the reduction of the islands of Ischia and Procida.

Returning to Messina in August, six of the royal and eight of the Maltese artificers were added to the force under Brigadier-General Oswald, and were present, on the 2nd October, at the surrender of Zante and other Ionian islands. These parties continued at Zante until after the taking of Santa Maura in the next year.

The Maltese artificers being enlisted for a term of three years only, their engagements expired in the summer. Upwards of sixty men consequently claimed their discharge, and in July the third Maltese company was re-formed.

In the mean time a force of one sub-lieutenant—George Robinson—two sergeant-majors—Joseph Forbes and John Smith—ten sergeants, and about 280 rank and file<sup>[158]</sup> had been selected for an expedition to Holland under the Earl of Chatham, to destroy the fleet and arsenals on the Scheldt. The youngest and most active men were chosen for the service, and were provided with swords and belts. The greater portion were also armed with muskets, under an impression that they would have to fight their way on shore. The detachment was divided into two operations to proceed against Flushing and Antwerp; the former under the command of Lieutenant-Colonel R. D'Arcy, R.E., the latter under Colonel Fyers, R.E. Both brigades embarked the 19th July, and having landed near Goes and Walcheren, a small force was employed in the operations in South Beveland under Captain Squire, R.E., and the remainder, with Sub-Lieutenant Robinson, were engaged in the bombardment of Flushing. The meditated attack on Antwerp was abandoned. Private Anthony Webster was killed at the seamen's battery on the 13th August, and two men were wounded.

During the bombardment, fifty of the detachment were permanently employed in making fascines and gabions, and about eighty carpenters prepared and put up the splinter-proof magazines and laid the platforms. The remainder were distributed to the batteries as sappers and miners or overseers. One of the batteries which was required in a hurry was worked solely by the royal military artificers, and completed in twenty-eight hours.<sup>[159]</sup> Generally they attended to the more difficult and dangerous portion of the



batteries, and besides repairing the parapets and platforms, improved the embrasures when injured by the enemy's cannonade.

In this service privates John Millar,<sup>[160]</sup> Thomas Wild, and Thomas Letts acted very praiseworthily in situations of great danger, and showed examples of courage, zeal, and attention to duty much beyond the rest of the detachment. On occasions when particular parts of the batteries were broken, these men fearlessly forced themselves into the embrasures to renew the work. The firing upon them was usually heavy. To effect their purpose with less interruption, they spread across the mouths of the embrasures, wet bulls' hides with the hairy surfaces to the fortress; and bearing as they did a resemblance to the newly disturbed earth, the enemy was deceived and withdrew their firing upon the work. The injured parts of the embrasures were thus restored with incredible dexterity. The two former were promoted to be second-corporals for their gallantry, and a similar rise was offered to Letts but he preferred to remain a private.

The conduct of the detachment at Walcheren is thus noticed by the Earl of Chatham:—"The active and persevering exertions of the corps of royal engineers have been conducted with much skill and judgment by Colonel Fyers, aided by Lieutenant-Colonel D'Arcy."<sup>[161]</sup> Elsewhere their exertions in the construction of the batteries are stated to have been indefatigable.<sup>[162]</sup>

After the occupation of Flushing, the fever common to the country set in with peculiar virulence; and the royal military artificers suffered very severely. Employed as they frequently were in conducting excavations in marshy and unhealthy situations, nearly the whole of the detachment were seized with the malady and thirty-seven died. Sergeant-major Forbes was of the number.

By repeated removals of the sick, the detachment was reduced to about eighty of all ranks, who were employed, previously to the evacuation of the island, in the demolition of the basin of Flushing and the naval defences of the place under Lieutenant-Colonel Pilkington, royal engineers. Second-corporal Thomas Stephens was intrusted with the practical conduct of the destruction of one of the piers of the flood-gates. The task imposed on him was so ably

executed, that when the explosion took place, the bottom of the pier was forced out and the superincumbent masonry fell without projecting a stone to any distance. Though only a second corporal he was appointed lance-sergeant on the spot for his skilful conduct.

Captain John T. Jones, the adjutant, was removed from the royal military artificers, on the 1st July by promotion, and was succeeded in the appointment by Captain Gilbert Buchanan, R E. In reorganizing the corps, Captain Jones had effected considerable improvements and raised in a high degree its morale and military efficiency.

The practice of employing men of the corps as servants to officers of royal engineers was discontinued in August. On active service the custom was found to be a great disadvantage. Stringent measures were therefore adopted to prevent its recurrence; and to this day, the officers are required to affirm quarterly, that they do not employ any men of the corps in their private service.

Detachments are traced during the year at the following new stations:—to Alderney, seven rank and file were removed from Guernsey by order of Lieutenant-General Sir John Doyle. Two armourers were employed in the royal manufactory for small arms at Lewisham, and continued on this service for many years. The Eastbourne party was scattered along the Sussex coast, working chiefly at Hastings and Bulverhithe. The Newfoundland company gave a strong party for the King's works at the south side of the harbour, which remained there for many months. A non-commissioned officer of the Halifax company was employed on a tour of inspection to Cape Breton and Prince Edward's Island; and the detachment at the Cape of Good Hope was distributed to Simon's Town, Hout's Bay, King's Blockhouse, and Muyzenberg.

## 1810.

Capture of Guadaloupe—Of St. Martin's and St. Eustatius—Torres Vedras—Anecdote of Corporal William Wilson at the Lines—Almeida and Busaco—Detachments to Cadiz—Puntales and La Isla—Destruction of Forts Barbara and St. Felipe, near Gibraltar—Santa Maura—Occasional detachments.

On the 22nd January, Colonel William Johnston and Lieutenant Hobbs, royal engineers, with three sergeants and forty-five rank and file of the West India company, embarked at Martinique under Lieutenant-General Beckwith. The detachment was appointed to the fifth or reserve brigade under the command of Brigadier-General Wale; and having landed at St. Mary's Capisterre, served at the taking of Guadaloupe.

A small party under Captain Hobbs, R.E., afterwards accompanied the force under Brigadier-General Harcourt, and was present at the capture of the islands of St. Martin's and St. Eustatius.

The celebrated Lines of Torres Vedras, commenced in October, 1809, were fully completed late in 1810. The number of the royal military artificers employed in their construction never exceeded eighteen of all ranks, who were distributed in ones and twos throughout the whole extent of country to be intrenched.<sup>[163]</sup> Under the superintendence and control of their officers, they directed the labours of many hundreds of the peasantry. Some of the party were responsible for the efficient services of no less than 500 to 700 workmen. In this duty second-corporal William Wilson and private James Douglas rendered themselves conspicuous by their skill and activity. Both were promoted in consequence.

Corporal Wilson was selected by Colonel Fletcher, the commanding engineer, to be his orderly, in which capacity he served until the death of his chief at St. Sebastian. At Torres Vedras the corporal had charge of a work, and a party of the Portuguese Ordenanza Militia was placed under his orders to execute it. Two of the men were put to a task to be completed within a certain time; but regarding the work as impossible, they refused to comply and complained to their officer, who took their part and was inclined to censure the corporal. However, with more manliness than soldier-like propriety, the corporal offered to bet the officer a dollar that he would accomplish the task *himself* within the time. The bet was accepted. Corporal Wilson stripped, easily won his dollar, and prevented the recurrence of similar complaints during the progress of the Lines.

Four of the royal military artificers were attached to the army on the Coa, and were present at the action near Almeida in July, and the battle of Busaco in September. Retreating with the army to Torres Vedras, the four men rejoined the detachment, and the whole continued to do duty in the Lines until removed for more active service.

On the 13th March, one corporal and eleven men of the Portsmouth and Gosport companies embarked with the force under Sir Thomas Graham for Cadiz. The non-commissioned officers were "careful trusty persons," and the men "stout, able, and good tradesmen." They landed from the 'Concord' transport on the 24th March, and were commanded by Major C. Lefebure, royal engineers, until he received his death wound, which took place in April as he was descending the walls of the fortress of Matagorda during its evacuation. Meanwhile a reinforcement from Portsmouth increased the party to two sergeants and forty-eight rank and file; and in October it was again augmented, by artificers selected from the different companies, to three sergeants, nine corporals, five second-corporals, two drummers, and seventy-three privates, with Sub-Lieutenant R. Davie. The last draft landed at Cadiz from the 'Diadem' transport.

In defending the fort of Puntales, which sustained a bombardment from across the water, a portion of the company was always

employed. There private Benjamin Hall was killed, and several privates were injured by a wall, under which they were mining, falling on them. The remainder of the company were occupied in fortifying the position of La Isla for the defence of Cadiz. Their particular duty consisted in making platforms, palisades, &c., and in acting as overseers to the military working parties of the line, assisted by artificers drawn from the regiments in garrison. The principal share of the work was done by task, which, being laid out beforehand, the royal military artificers showed the workmen their respective portions as soon as they arrived on the ground,<sup>[164]</sup> and superintended its correct execution, both in quantity and detail. At La Isla, the company was stationed at the park, and domiciled in one of the powder-magazines which had been made defensible.

Under the direction of Lieutenant-Colonel Evatt and Captain G. J. Harding, royal engineers, Forts Barbara and St. Felipe, on the Spanish lines in front of Gibraltar, were demolished by a strong detachment from the two companies stationed at the fortress. The operations occupied a few months; and during the work the detachment was covered by a force from the garrison of 500 to 800 soldiers. In firing a mine near St. Felipe, private John Barber lost an arm, both eyes, and part of his chin and teeth. In springing another mine near Tarifa, private Thomas Hughes was killed.

From Zante a party of five royal and eighteen Maltese military artificers sailed with the force under Brigadier-General Oswald, and were present on the 16th April at the capture of Santa Maura. This service effected, the detachment returned to Messina, leaving for the works of the newly-captured island a corporal and a mason of the royal military artificers.

During the year, parties or individuals of the corps were employed on particular service abroad—at Ceuta, Tarifa, and at Sidney in Cape Breton; while, at home, men were detached to Hythe, Isle of Wight, and Northfleet. At the latter place the party was employed, from August to December, in surveying under Mr. Stanley of the royal military surveyors and draftsmen.

## 1811.

Mortality in the West Indies—Strength and distribution of detachments in the Peninsula—Recapture of Olivenza—Field instruction prior to siege of Badajoz—Conduct of corps at the siege—Conduct of Sergeant Rogers in reconnoitring—Reinforcement to Portugal and duties of the detachment—Its distribution and services—Battle of Barrosa; gallant conduct of Sergeant John Cameron—Tarragona—Defence of Tarifa—Augmentation to corps and reconstruction of companies—Annual expense of corps—Command of the companies—Their stationary character—The wealthy corporal—New distribution of corps—Commissions to Sub-Lieutenants, and ingenious inventions of Lieutenant Munro.

The West India company being gradually reduced to about fifty men, it was strengthened in March to 110, by the arrival at Barbadoes, in the 'Flora' transport, of fifty-eight men. During the years 1810 and 1811 the number of deaths in the company from yellow fever was thirty.

The detachment of the corps in Portugal was increased to seventy-eight of all ranks, by the landing at Lisbon of two sergeants and fifty-seven rank and file under Lieutenant P. Wright of the royal engineers. Thirty-four of the reinforcement were forthwith sent to the Lines of Torres Vedras and the Almada position; and the remaining twenty-five joined the head-quarters of the army, under Captain George Ross and Lieutenant Stanway.<sup>[165]</sup>

While these movements were being effected, two artificers of the detachment were present at the recapture of Olivenza in April, under the command of Captain Squire, R.E.<sup>[166]</sup>

Soon after the reduction of Olivenza the siege party was augmented to twenty-seven, by the arrival at Elvas of twenty-five men under Captain George Ross. Of this increase not a man had

ever seen the construction of a sap, battery, or trench. The whole were therefore daily drilled in the formation of fieldworks and in making fascines and gabions.<sup>[167]</sup> In these instructional operations they soon acquired sufficient knowledge to render themselves useful to their officers; and, at the same time, showed intelligence and alacrity in aiding in the construction of the flying-bridges across the Guadiana at Juramenha.

These twenty-seven men were employed in the first siege of Badajoz. Reduced by two, they were also present at the second siege of that fortress. On both occasions the diligence and exertions of the detachment were prominent; and, assisted by the line workmen, they quickly repaired the broken batteries and damaged embrasures. "Many a fine fellow," says a well-known author, "lost his life in endeavouring to vie with the men of the engineers."<sup>[168]</sup>

In the second siege, on the night before the storming, sergeant William Rogers, and three intrepid men of the corps, accompanied Captain Patton, R.E., on the dangerous service of reconnoitring the fords of the Rivillas, and the approach to the castle breach beyond the river. They conducted the examination for a time and then returned to the works for a file of men as a guard. With this escort they retraced their steps; but left it behind at a short distance from the breach, when the captain and his "trusty sergeant" went forward alone and completed the reconnaissance. In returning to the guard the captain stumbled, and the clanking of his sword drawing the attention of the French sentinels, they fired, and he fell mortally wounded. Sergeant Rogers protected his captain till he gained the escort, with whose assistance he succeeded in bearing him alive to the trenches. Captain Patton was able to make his report of the practicability of the assault and soon afterwards expired.<sup>[169]</sup> Sergeant Rogers died at Fuente Guinaldo in the following August. Of him Colonel Fletcher wrote: "he was an attentive, good soldier, and in every way a most estimable character."

In May the detachment under Lieutenant-Colonel Fletcher received an addition of thirty-nine men; and on the 29th June a further reinforcement of sixty-three non-commissioned officers and men under Lieutenants Melhuish and De Salaberry, royal engineers. In

consequence of this augmentation, the men of the infantry acting as overseers and mechanics on the lines, rejoined their respective regiments; and the posts thus vacated were occupied by the newly-arrived detachments of military artificers.<sup>[170]</sup>

The whole force of the corps in Portugal amounted in July to 8 sergeants, 5 corporals, 16 second corporals, 3 drummers, and 145 privates; total, 177. Of this number a comparatively small party only was kept with the army, whilst the remainder were distributed to the lines, Sobral, Oeyras, the Almada position, Peniche, Abrantes, Alhandra, Fort St. Julian, &c. In conducting the works at those places, "the abilities and good conduct of the men were found of the utmost advantage." At Fort St. Julian particularly, where they were employed in the formation of four extensive jetties for the embarkation of troops in case of necessity, their skill and expertness were found of great importance. Sergeant John M'Kay had the executive superintendence of the work under the direction of Captain Holloway, R.E.

The detachment with the moving army was broken up into sections of five or six men to each division or corps, and one or other of them was at the blockade of Almeida, Fuentes d'Onoro, Albuera, Campo Maior, and the several other actions which occurred in the Peninsula during the campaign of 1811.

From Cadiz Sub-Lieutenant Davie and fifty men under Captain J. F. Birch of the royal engineers, were detached with Sir Thomas Graham's force, and landed at Algeciras 22nd February. Being armed with short swords only, Sir Thomas caused them to be furnished with such spare muskets, accoutrements, and ammunition as could be collected, to defend themselves if necessary on the march. They were then placed at the head of the column to remove obstructions and facilitate the advance of the army. On the 5th March, Barrosa was fought, and the detachment of artificers was present in the battle. Here sergeant John Cameron gave a manifestation of his zeal by leading to the charge a section of seven men. They pressed where the fight was warmest; and in a few moments lost one private—John Storie—killed and two wounded. The blue uniform of the artificers was distinctly seen among the red coats of the line, and Sir



Thomas Graham ordered the instant withdrawal of the party to the rear, observing that he might want it for other work. The sergeant was to have been tried by a court-martial for taking the men into action without orders; but his bravery saved him.

In June a second-corporal and four military artificers of the Cadiz company under Lieutenant Harry D. Jones, were attached to Colonel Skerrett's expedition to assist the Spaniards in sustaining the siege of Tarragona; but the fortress fell while the British troops were in the roadstead. The party of artificers landed and occupied quarters in St. George's Barracks, near Mahon, in the island of Minorca, and returned to La Isla in July.

In the following October, two artificers were sent from Cadiz for the defence of Tarifa under Captain C. F. Smith, R.E. Two also were sent there from Gibraltar by Colonel Sir Charles Holloway, the chief engineer at the fortress. Ultimately the engineers' means were increased to seventeen men of all ranks, who were employed as overseers in strengthening the defences of the place, and they carried on their duty with energy and credit. One private was wounded on the 29th December. A detachment of variable strength continued at Tarifa until April, 1813, when it returned to Cadiz.

A reinforcement of twenty men under Sub-Lieutenant Stewart Calder, sailed in November on board the 'Tartar' transport for Cadiz, and landed before the end of the year. The artificer force there now counted 101 of all ranks.

Anholt, an island of Denmark in possession of the British, had been attacked by the Danes in March, and the fortifications consequently were much damaged. No officer of the royal engineers being available for the duty of restoring the defences, corporal Alexander Borthwick of the royal military artificers, an experienced mechanic, was sent there in His Majesty's ship 'Helder,' with two privates as overseers. They landed in September and were quartered in Fort Yorke under Lieutenant John Bezant, the ordnance storekeeper. The marines on the island were employed on the works, and each received for his labour 2s. 4d. a-day. They worked with attention and spirit. In six months all the authorized renewals and improvements were executed; and in May, a further sum of 3,700/.

having been voted for completing the defences of the island, additional works were commenced to place the fortifications in a state to sustain a regular siege. In preparing to meet an apprehended attack on the island by the Danes, corporal Borthwick made various effective arrangements for the disposition and employment of the working parties, and gained the thanks of the Military Commandant, Major Torrens, royal marines. Shortly after, Admiral Martin being of opinion that the fortifications were sufficiently tenable to stand an attack, the works were suspended; and in August, 1812, Borthwick and his overseers returned to England. For his conduct and services at Anholt he was promoted to be sergeant; and a commission to a sub-lieutenancy was to have been conferred on him, but in the interim he became involved in some serious irregularities, which prevented the reward and ultimately ruined him.

So many detachments had been provided for the colonies and the war, that appeals for reinforcements or more extended aid could only occasionally be attended to. From the Peninsula and elsewhere, therefore, representations had been made of the necessity for increasing the corps, and augmenting the engineers' means for carrying on with efficiency the duties of the department. The proposals at length met with due consideration; and on the 28th May a warrant was issued for an improved organization of the corps, enlarging its establishment to an extent commensurate with the precautions which the disturbed state of Europe rendered advisable.

The warrant sanctioned an increase of 1,347 men, abolished the rank of company-sergeant-major, added to the number of the sub-lieutenants, and divided the corps into four battalions of eight companies, each company being constituted as follows:—

Sub-Lieutenant	1
Sergeants	5
Corporals	5
Second-Corporals	5
Drummers	3
Carpenters	15

Masons	10
Bricklayers	6
Smiths	4
Wheelers	2
Collar-makers	2
Cooper	1
Miners <sup>[171]</sup>	30
Total	89

The establishment of the corps was fixed as under:—

Staff	{	Adjutants <sup>[172]</sup>	4
		Sergeant-majors	4
		Quartermaster-Sergeants	4
		Drum-major	1
Sub-Lieutenants		32	
Sergeants		160	
Corporals		160	
Second-Corporals		160	
Drummers		96	
Privates		2,240	
Total		2,861	

exclusive of the three companies of Maltese military artificers.

The annual expense of the corps, not including working pay and other fluctuating contingencies, amounted to 87,736*l.* 14*s.* 3¼*d.* At this period 5 sub-lieutenants, 1 sergeant-major, and 130 men were employed on the recruiting service.

In all practicable cases, general and field-officers were deprived of the command of companies, which now ceased to be stationary, but were removed by rotation of relief from one station to another, the same as the companies of the royal artillery. The employment of men on detached duties was also discouraged, and companies were composed of a convenient strength to enable them to move in bodies.

Upon the stationary condition of the corps a celebrated officer of the royal engineers has made the subjoined correct remarks:—<sup>[173]</sup>  
 “From the close of the American war till the year 1811, all the companies of royal military artificers were kept permanently fixed at their respective stations, both at home and abroad, where they remained for life, in what may, for military men, be styled a state of vegetation; so that they were, at that period, a vast number of men who had actually grown grey in the corps, who had never entered a transport, nor made a single day’s march from the head-quarters of their company. To the men at Gibraltar and other foreign stations the service of the corps was thus rendered almost equivalent to transportation for life. Everywhere they intermixed with civilians; they married in a proportion unknown in any other corps; so much so, that the number of women and children belonging to one company was often equal to that of a battalion of the line.”<sup>[174]</sup>

Under the new arrangement the companies were distributed as follows:—

	Companies.
Woolwich	6
Chatham	2
Portsmouth and Gosport	3
Plymouth	2
Dover	2
Guernsey	1
Jersey	1
Cork	2
Gibraltar	3
Newfoundland	1
Halifax	1
West Indies	2
Cadiz	2
Portugal	4

with detachments from the above to Eastbourne and the Sussex coast, Hythe, Cape Breton, New Brunswick, Ceylon, Cape of Good Hope, Sicily, the Ionian Islands, and Madeira.

The companies at Cadiz were the sixth and seventh of the first battalion; and those in Portugal were the fifth, sixth, seventh, and eighth of the second battalion. At this time the corps counted a force of nearly 1,500 men. More than half were employed in foreign possessions and colonial defence. The remainder, distributed in home garrisons and the Channel Islands, included a large proportion of aged men, invalids, and recruits. By the end of the year the reconstruction of the companies was completed; and from continual accessions of squads of recruits, rapidly equipped and disciplined, the corps was soon in a condition, to a greater extent than heretofore, to meet such incidental necessities as might arise.

Eleven sergeants were commissioned to be sub-lieutenants during the year. Some joined from the royal artillery. All were distinguished either as soldiers or artificers, particularly Sub-Lieutenant Munro, who was an "ingenious and skilful mechanic," and his inventions, which met with general approbation, were attended with considerable saving to the Government. The captain of his company, in making a record of his acquirements, wrote that Lieutenant Munro "was the most zealous and intelligent non-commissioned officer whom he had met in the course of his services."<sup>[175]</sup>

## 1812.

Plymouth company instructed in field duties—Engineer establishment at Chatham—Major Pasley appointed its director—Discipline and drill of corps—Its character—Sir John Sinclair ex-private—Title of corps changed—Captain G. Buchanan—A sergeant acrobat—Cuidad Rodrigo—Exertions of a company on the march to the siege—Repairs to the fortress—Siege of Badajoz—Difficulties in removing the stores to the park—Duties of the sappers in the operation—Gallant behaviour of Patrick Rooney and William Harry—Also of a party at Fort Picurina, and of Patrick Burke and Robert Miller—Hazardous attempt to blow down the batardeau in the ditch of the lunette, and conduct of corporal Stack—Bravery of a party in mining under the bridge of the inundation—Distribution of the Peninsular companies and their services—Bridges of Yecla and Serrada—Reinforcement to Spain—Salamanca—Burgos, and boldness of Patrick Burke and Andrew Alexander at the siege—Bridge of Alba—Carthagená—Reinforcement to Cadiz; action at Seville—Reinforcement to the Peninsula and distribution of the sappers—Green Island—Tarragona—First detachment to Bermuda.

Major Pasley, R.E., on his appointment to the Plymouth station, occasionally practised his company in sapping and mining. He was one of those officers who took pains to improve the military appearance and efficiency of his men, and to make them useful either for home or foreign employment. He is believed to have been the first officer who represented the advantage of training the corps in the construction of military field-works.

After the failure of Badajoz in 1811 the necessity of this measure was strongly advocated by the war officers. Then it was recommended to form a corps under the name of royal sappers and miners, to be composed of six companies chosen from the royal military artificers, which after receiving some instruction in the art, was to be sent to the Peninsula to aid the troops in their future siege

operations.<sup>[176]</sup> Early in this year [1812] the suggestion was repeated by Sir Richard Fletcher; and Lord Wellington having also, in the most forcible manner, brought the subject to the notice of the Secretary of State,<sup>[177]</sup> a warrant was issued under date of the 23rd April for the formation of an establishment for instructing the corps in military field-works.

Lord Mulgrave, the Master-General, selected Chatham as the most suitable place for carrying out the royal orders, and appointed Major C. W. Pasley director of the establishment. The exertions of that officer at Plymouth naturally singled him out for the post. The better to effect his purpose, he published for the use of the corps, elementary works on fortification, geometry, &c. of the greatest simplicity; and they have ever since been the text-books of the institution. In addition to sapping and mining, his system comprised bridge-making, pontooning, the use of ropes, mechanical appliances, and all other arts and contrivances, which the corps, in its connection with the engineer department, is likely to be called on to perform. "Uniting," says Sir John Jones, "great zeal and unwearied perseverance with good talents" and judgment, Major Pasley "succeeded in extending the course far beyond these objects," and not only "filled the ranks of the corps with good scholars, good surveyors, and good draughtsmen," but enabled many, after quitting the service, to occupy with ability and credit, situations of considerable importance in civil life.<sup>[178]</sup>

The formation of the school at Chatham increased the means for discipline and drill. Other stations, stimulated by the example, paid greater attention to their enforcement. The injurious system of changing officers incessantly was now abolished; and the juniors, among a stated number of the second captains, first lieutenants, and second lieutenants of the royal engineers, were appointed regimental officers of the companies. Sir John Jones has recorded that "the men generally were of superior acquirements and well-disposed," and the above changes had the best possible effect upon their general behaviour.<sup>[179]</sup> "By linking officers and men together," he added, "and closely connecting their mutual interests, discipline and pride were given to the soldier," and character to the corps.<sup>[180]</sup>

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